

## CLAIMS

What is claimed is:

- 1    1.     A tool control system comprising:  
2           a pneumatic source;  
3           a vacuum source;  
4           a control mechanism coupled to the pneumatic source, to the vacuum source,  
5           to a supply hose, and to a pilot hose, wherein the supply hose and the pilot hose are  
6           to couple to a tool, wherein the control mechanism is to provide vacuum to the  
7           supply hose when air within the pilot hose has greater than a predetermined  
8           pressure, and wherein the control mechanism is to provide air pressure to the supply  
9           hose when air within the pilot hose has less than the predetermined pressure.
  
- 1    2.     The tool control system recited in claim 1, wherein the control mechanism  
2           comprises:  
3           a limit valve coupled to the pneumatic source and to the pilot hose; and  
4           a reversing valve coupled to the limit valve, to the vacuum source, to the  
5           pneumatic source, and to the supply hose.
  
- 1    3.     The tool control system recited in claim 2, wherein the limit valve is to  
2           couple the reversing valve to the vacuum source when air within the pilot hose has  
3           greater than the predetermined pressure, and wherein the limit valve is to couple the  
4           reversing valve to the pneumatic source when air within the pilot hose has less than  
5           the predetermined pressure.

1 4. A system comprising:  
2 an air source;  
3 a vacuum source; and  
4 a control mechanism coupled to the air source and to the vacuum source,  
5 wherein the air source and the vacuum source are to couple to a tool comprising a  
6 first actuation element and a second actuation element, wherein the control  
7 mechanism is to provide vacuum to the tool when fewer than both actuation  
8 elements are actuated, and wherein the control mechanism is to provide air pressure  
9 to the tool when both actuation elements are actuated.

1 5. The system recited in claim 4, and further comprising:  
2 a supply hose selectively coupleable to the air source or to the vacuum  
3 source; and  
4 a pilot hose coupled to the first and second actuation elements,  
5 wherein the supply hose and the pilot hose are to couple to the tool.

1 6. The system recited in claim 5, wherein the control mechanism is to provide  
2 vacuum to the supply hose when air within the pilot hose has greater than a  
3 predetermined pressure, and wherein the control mechanism is to provide air  
4 pressure to the supply hose when air within the pilot hose has less than the  
5 predetermined pressure.

1 7 The system recited in claim 5, wherein the control mechanism comprises:  
2 a limit valve coupled to the air source and to the pilot hose; and  
3 a reversing valve coupled to the limit valve, to the vacuum source, to the air  
4 source, and to the supply hose.

1 8. The system recited in claim 7, wherein the limit valve is to couple the  
2 reversing valve to the vacuum source when air within the pilot hose has greater than  
3 the predetermined pressure, and wherein the limit valve is to couple the reversing  
4 valve to the air source when air within the pilot hose has less than the predetermined  
5 pressure.

1 9. A system comprising:  
2 an air source;  
3 a vacuum source;  
4 a control mechanism coupled to the air source and to the vacuum source,  
5 wherein the control mechanism is to couple to a tool comprising a first actuation  
6 element and a second actuation element; and  
7 a pilot hose coupled to the control mechanism, wherein air within the pilot  
8 hose has less than a predetermined pressure when fewer than both actuation  
9 elements are actuated, and wherein air within the pilot hose has greater than a  
10 predetermined pressure when both actuation elements are actuated.

1 10. The system recited in claim 9, and further comprising:  
2 a supply hose selectively coupleable to the air source or to the vacuum  
3 source;  
4 wherein the supply hose and the pilot hose are to couple to the tool.

1 11. The system recited in claim 10, wherein the control mechanism is to provide  
2 vacuum to the supply hose when air within the pilot hose has greater than a  
3 predetermined pressure, and wherein the control mechanism is to provide air  
4 pressure to the supply hose when air within the pilot hose has less than the  
5 predetermined pressure.

1 12. The system recited in claim 10, wherein the control mechanism comprises:  
2 a limit valve coupled to the air source and to the pilot hose; and  
3 a reversing valve coupled to the limit valve, to the vacuum source, to the air  
4 source, and to the supply hose.

1 13. The system recited in claim 12, wherein the limit valve is to couple the  
2 reversing valve to the vacuum source when air within the pilot hose has greater than  
3 the predetermined pressure, and wherein the limit valve is to couple the reversing  
4 valve to the air source when air within the pilot hose has less than the predetermined  
5 pressure.

1 14. A method comprising:  
2 providing a tool having a primary hammer, a secondary hammer, a  
3 propulsion element, a nose, and an actuation element;  
4 positioning a fastener in the nose; and  
5 actuating the actuation element to activate the propulsion element, the  
6 propulsion element moving the primary hammer to strike the secondary hammer,  
7 causing the secondary hammer to drive the fastener.

1 15. The method recited in claim 14 wherein, in providing, the primary hammer  
2 has more mass than the secondary hammer.

1 16. The method recited in claim 14 and further comprising:  
2 providing an additional actuation element; and  
3 activating the propulsion element only when both the actuation element and  
4 the additional actuation element are actuated.

1 17. The method recited in claim 14, wherein the additional actuation element is  
2 actuated when the nose is depressed.

1 18. The method recited in claim 14, wherein the tool further comprises a vacuum  
2 element to provide vacuum, the method further comprising:  
using vacuum to retract the primary hammer after the fastener is driven.

1 19. The method recited in claim 18, wherein the nose has a channel to hold the  
2 fastener, the method further comprising:  
3 using vacuum to retain the fastener in the channel prior to actuating the  
4 actuation element.

1 20. The method recited in claim 14, wherein the fastener is driven without  
2 causing an appreciable reactive force upon the tool in a direction opposite to that in  
3 which the fastener is driven.